

## VIRTUAL SPACES ... - Abstract of doctoral dissertation by Wojciech Kubiak

Nowadays, in pandemic and post pandemic time, virtual reality space seems to be one of the most important places in which a human activity takes place. With this we mean for example the possibilities of remote work and home office, paying virtual visits to cultural heritage centers. The author states a thesis that we are at the verge of meaningful changes in film production workflow and the making of television programs. Using virtual technology is probably the beginning of a great revolution that will happen very soon (or rather is happening already) before our own eyes. In the dissertation, the author presents the historical-theoretical aspect, and describes tools that enable functioning in these new areas.

**Chapter 1** explains definitions and concepts used throughout the dissertation and categorizes the division of virtual technology terms.

**Chapter 2** describes how the definition of virtuality is understood in philosophical concept on the basis of the theory of film. This chapter includes also a historical view that shows the evolution of virtual reality systems from the earliest attempts of imitation/creation of the reality up to modern interfaces that make it possible to “dive into” virtual reality or the ones that integrate computer generated audio and graphic with the real world.

In **Chapter 3** there is a full spectrum of virtual technology usage in the selected zones of everyday human activity presented.

**Chapter 4** is an attempt to look deeper into the possibility of usage those technologies in television and film. The Author shows the way that formerly used trick effects (such as blue box type) have undergone transforming into the virtual studios systems used nowadays. It also shows the evolution of technologies used while film making – from matte painting, mock-up animation or “wandering masks” to modern previsualization and storyboarding systems.

**Chapter 5** covers the presentation of other achievable virtual technology usage in the visual art field. One can find here issues connected to the new ways of presenting art in museums and other public places, new “digital” art market, new ways of activities and tools available for viewers and artists. In this chapter, there is also a new workflow of film and television production described, based on “graphic engines” from video games or LED screens. Those systems make it possible for filmmakers creation and modification objects that are filmed while working in real-time on the level never expected until now. The revolutionary aspect of those changes is based on a prospect of elimination or significant cost reduction in the production. As an example, one can mention avoiding film making- team tours to expensive or dangerous locations.

**Chapter 6** is devoted to describe activities that the author had on producing the practical part of the dissertation – an exhibition based on AR – (augmented reality) tool and other experiments that he has been working on lately (for instance, finding a way of using low budget systems of motion capture or camera tracking for filming actor scene “live”).

**Chapter 7** is a short summary of the dissertation and contains some conclusions.

